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EXAMINER

NGUYEN, HANH N

ART UNIT PAPER NUMBER

2834

DATE MAILED: 03/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/077,974

Applicant(s)

WONG, BEN TO FAN

Examiner

Nguyen N Hanh

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 19 December 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____. 6) ☐ Other: _____

DETAILED ACTION

Remarks

1. In view of amendment, the Examiner withdraws the rejection under 35 U.S.C 112 to claims 4,5,11-14.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Shimizu.

Regarding claim 1, Shimizu discloses a miniature electric motor comprising: a tubular housing (20 in Fig. 2a); and at least one end cap (1), said end cap having a boss portion fitted inside the housing, a flange (Fig. 2a) which abuts an axial end of the housing, and an engagement portion (Fig. 1a); said housing having at least one circumferentially extending finger (20a in Fig. 2a) which is radially deformed into contact with the engagement portion of the end cap to capture the end cap to the housing; wherein the engagement portion includes an axially projecting ridge and the finger bears axially onto the ridge to nip the end cap to the housing.

Regarding claim 2, Shimizu also discloses a miniature electric motor wherein the ridge is substantially circumferentially extending along the engagement portion (Fig. 1b).

Regarding claim 3, Shimizu also discloses a miniature electric motor wherein the engagement portion (Fig. 1b) has a substantially planar portion lying in a radial plane of the motor from which the ridge projects axially away from the housing.

Regarding claim 4, Shimizu also discloses a miniature electric motor wherein the end cap is a molded resin body (plastic as shown in Fig. 1b) and the engagement portion includes a recess formed in the flange and boss portion into which the finger is deformed (Fig. 1b).

Regarding claims 5 and 6, Shimizu also discloses a miniature electric motor wherein the ridge is formed along the outer peripheral edge of the recess and the ridge has an outer chamfer for guiding the finger.

Regarding claim 7, Shimizu also discloses a miniature electric motor wherein the engagement between the ridge and the finger involves at least part shearing (chamfer portion) of the ridge to accept the finger.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 8-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimizu in view of Masrrodonato et al.

Regarding claim 8, Shimizu shows all limitations of the claimed invention except showing a miniature electric motor wherein the finger has an axially inner edge which engages the ridge, said inner edge is tapered with respect to a radial plane of the motor.

However, Masrrodonato discloses a miniature electric motor wherein the finger has an axially inner edge which engages the end cap (Fig. 19 and 20) for the purpose of holding the end cap.

Since Shimizu and Masrrodonato et al. are in the same field of endeavor, the purpose disclosed by Masrrodonato would have been recognized in the pertinent art of Shimizu.

It would have been obvious at the time the invention was made to a person having an ordinary skill in the art to modify Shimizu by forming different kind of finger (should have inner edge tapered with respect to radial plane of the motor to compensate with the chamfer of the ridge) as taught by Masrrodonado for the purpose of holding the end cap.

Regarding claim 9, Masrrodonato et al. also show a miniature electric motor wherein the housing has an even number of fingers formed as opposing pairs by T-shaped holes (inherent as can be seen in Fig. 19 and 20) in an end portion of the housing.

Regarding claim 10, the structure disclosed by Shimizu, modified by Masrrodonato et al. also shows the end cap has a number of engagement portion corresponding in number to the pairs of fingers and the or each engagement portion accommodates one pair of fingers.

Regarding claims 11,13 and 14, it is noted that all of the limitations of the method claims have been fulfilled by Shimizu and Masrodonato et al. in claim 1 and claim 8.

Regarding claim 12, Shimizu disclosed the invention except for showing the method wherein part of the ridge is sheared by the finger thereby firmly holding the end cap to the housing (it is noted that the end cap of Shimizu has a ridge portion as shown clearly in Fig. 1b).

However, Masrodonato discloses a miniature electric motor wherein the finger has an axially inner edge which engages the end cap (Fig. 19 and 20) for the purpose of holding the end cap.

Since Shimizu and Masrodonato et al. are in the same field of endeavor, the purpose disclosed by Masrodonato would have been recognized in the pertinent art of Shimizu.

It would have been obvious at the time the invention was made to a person having an ordinary skill in the art to modify Shimizu by forming different kind of finger (should have inner edge tapered with respect to radial plane of the motor to compensate with the chamfer of the ridge to shear part of the ridge) as taught by Masrodonato for the purpose of holding the end cap.

Regarding claim 15, it is noted that all limitations of the method claim have been fulfilled by Shimizu and Masrodonato as in claim 11 and 12.

Response to Arguments

5. Applicant's arguments filed on 12/15/02 have been fully considered but they are not persuasive. The applicant's argument is on the ground that "the reference that the

examiner relies on (Shimizu) have the housing with an axially extending finger which is axially deformed and the slopped bottom surface is not a ridge ". The Examiner respectfully disagrees with the Applicant. Even though the finger of Shimizu extends in axial direction, it also extends in circumferentially too. As shown in Fig. 2a, the finger is radially deformed into contact with the engagement portion (as shown in Fig. 2a, the finger is bent to follow the course of a radius from the center axis). Moreover, the ridge is defined by Webster's dictionary as an elevated boby part, the structure as shown in Fig. 2a has fulfilled the limitation of the claim. In short, the claims are interpreted as broad as possible and they still do not clearly and distinctly claim the subject matter of the invention. Therefore, the rejection is still deemed proper.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hanh N Nguyen whose telephone number is (703) 305-3466. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner 's supervisor, Nestor Ramirez can be reached on (703) 308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-3431 for regular communications and (703) 305-3431 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.

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HNN

February 26, 2003



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